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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,575

12/12/2003

Yoshio Ichikawa

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23373

7590

04/22/2004

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EXAMINER

MIGGINS, MICHAEL C

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/733,575	Applicant(s) ICHIKAWA, YOSHIO	
	Examiner Michael C. Miggins	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/12/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (GB Patent Application 2 317 921 A) in view of Ichikawa (U.S. Patent No. 5,433,841).

Wright teaches a fuel tank for a motor vehicle (page 1, lines 1-7) whose inner face is processed with an inorganic coating agent/catalyst (page 1, lines 27-35 and Figure 3) for the purpose of providing improved fuel economy (page 1, lines 14-18) (applies to instant claim 1).

Wright fails to disclose a fuel tank wherein the agent/catalyst comprises fine particles carrying silver and/or copper and inorganic fine particles, wherein the fine particles carrying silver and/or copper are at least one selected from the group consisting of an aluminosilicate, a phosphate, a silicate, a carbonate, a metal oxide, a metal hydroxide, a metal nitride and a metal carbide, wherein the inorganic fine particles are selected from the group consisting of aluminum oxide, titanium oxide, zirconium oxide and a silicate compound, wherein the inorganic coating agent/catalyst further comprises at least one binder selected from the group consisting of a synthetic resin, a metal alkoxide, a metal hydroxide, and a combination of an alkali metal salt and a curing

Art Unit: 1772

agent, wherein the inorganic coating agent/catalyst contains a dispersing medium, wherein the dispersing medium is water and/or an organic solvent.

Ichikawa teaches a fuel tank (column 17, lines 38-42) wherein the agent/catalyst comprises fine particles carrying silver and/or copper (column 2, lines 12-53) and inorganic fine particles (column 8, line 50 through column 9, line 16), wherein the fine particles carrying silver and/or copper are at least one selected from the group consisting of an aluminosilicate, a phosphate, a silicate, a carbonate, a metal oxide, a metal hydroxide, a metal nitride and a metal carbide (column 2, lines 12-53), wherein the inorganic fine particles are selected from the group consisting of aluminum oxide, titanium oxide, zirconium oxide and a silicate compound (column 8, line 50 through column 9, line 16), wherein the inorganic coating agent/catalyst further comprises at least one binder selected from the group consisting of a synthetic resin, a metal alkoxide, a metal hydroxide, and a combination of an alkali metal salt and a curing agent (column 3, line 25 through column 4, line 68), wherein the inorganic coating agent/catalyst contains a dispersing medium, wherein the dispersing medium is water and/or an organic solvent (column 8, lines 16-49) for the purpose of providing improved fuel economy by subdividing gasoline molecules to conduct fine atomization thereby promoting complete combustion (applies to instant claims 1-2, 4, 6 and 8-9).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a fuel tank wherein the agent/catalyst comprises fine particles carrying silver and/or copper and inorganic fine particles, wherein the fine particles carrying silver and/or copper are at least one selected from

Art Unit: 1772

the group consisting of an aluminosilicate, a phosphate, a silicate, a carbonate, a metal oxide, a metal hydroxide, a metal nitride and a metal carbide, wherein the inorganic fine particles are selected from the group consisting of aluminum oxide, titanium oxide, zirconium oxide and a silicate compound, wherein the inorganic coating agent/catalyst further comprises at least one binder selected from the group consisting of a synthetic resin, a metal alkoxide, a metal hydroxide, and a combination of an alkali metal salt and a curing agent, wherein the inorganic coating agent/catalyst contains a dispersing medium, wherein the dispersing medium is water and/or an organic solvent in the fuel tank of Wright in order to provide improved fuel economy by subdividing gasoline molecules to conduct fine atomization thereby promoting complete combustion as taught or suggested by Ichikawa.

Claims 11, 13 and 15-19 are method claims which depend from independent product claim 1 and recite method limitations which do not further structurally limit the product claim 1. Therefore, the prior art need not teach the method claims to read on applicant's claims as written because the method limitation do not further structurally limit the product claim 1 from which the method claims ultimately depend (applies to instant claims 11, 13 and 15-19).

Claims 3, 5, 7, 10, 12, 14, 15 and 20 recite ranges pertaining to the amounts of various ingredients of the inorganic coating agent/catalyst. Ichikawa teaches that the amounts of the various components is variable (column 9, lines 1-16 and table 1). Thus one of ordinary skill in the art would have recognized that the recited ranges pertaining to the amounts of various ingredients of the inorganic coating agent/catalyst set forth in

Art Unit: 1772

claims 3, 5, 7, 10, 12, 14, 15 and 20 would be readily determined through routine experimentation depending on the desired end results absent some showing of unexpected results. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided applicant's recited ranges in order to provide improved fuel economy by subdividing gasoline molecules to conduct fine atomization thereby promoting complete combustion, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges or an optimum value of a result effective variable involves only routine skill in the art (applies to instant claims 3, 5, 7, 10, 12, 14, 15 and 20). See MPEP 2144.

Conclusion

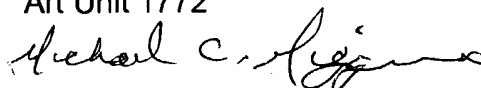
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is (571) 272-1494. The examiner can normally be reached on Monday-Friday, 1:30-10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pyon Harold can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Miggins
Examiner
Art Unit 1772



MCM
April 19, 2004